



Name(s)_____Blk_____

LIFE FORM PRESS RELEASE

A possible life form discovered on Donner by the Donner Rover. Samples have arrived at the ILDC laboratory for detailed analysis. The search for alien life may be over!!!

The Interplanetary Land Development Company (ILDC) has recently obtained samples of water from Donner that may contain an alien life form. It is up to your and a partner to determine if there is life in the samples and to describe any potential life forms you observe.

Surprisingly, there is no firm scientific definition of life. There is no single test that can establish the presence or absence of life and no single characteristic that applies to all living things. However, one can begin to define life by listing the characteristics that living creatures on Earth share.

Pre-Lab Activity:

1. Develop a common set of characteristics that can be used to identify life. You should be able to come up with 6 to 8 of these.

Materials:

- Water retrieved by the Donner Rover (prepared in advance)
- Microscopes (light)
- Slides and Cover slips

Instructions:

1. Use a pipette to withdraw a sample from the water and prepare a wet mount on a slide.
2. Observe the drop of Donner water under Low Power to scan and find the potential life forms. High Power is useful once you have found something to determine details not clear in Low Power. If you use High Power, make sure to add a cover slip.
4. If the potential life forms are moving too fast and therefore difficult to observe: place 2 or 3 strands of cotton on the slide

YOU MUST BE PATIENT FINDING THEM, IT IS WORTHWHILE!

Data Collection/Observation:

1. Draw a detailed diagram of the potential life form(s) below. Identify as many features as you can (i.e. is there part of the body that may be a head or a leg? Can you see any internal organs?)

2. What features of the potential life form resemble life on Earth? What features seem to be purely alien?

3. Describe how the potential life form moves.

4. Does movement support that it is living? Why or why not?

5. Determine if the potential organism is an autotroph (obtains fuel from non-living sources) or a heterotroph (obtains fuel from other living sources).

6. What characteristics of the potential life form helped you decide this?

7. Does the potential life form respond to stimuli? How can you tell?

8. Are there any differences among the potential life forms? Describe them below and hypothesize what these differences may indicate about our potential life form(s).

Analysis

1. After observing the potential life form, are there any revisions you would make to the characteristics of living thing you developed in the pre-lab? What are they?
2. Using the your revised characteristics of life, determine whether or not the potential life form you are observing is living or not. Support your decision with evidence.
3. Which of your criteria were most important in helping you draw your conclusions? Why?
4. How would finding life on the planet or moon you are planning to develop change your proposal?